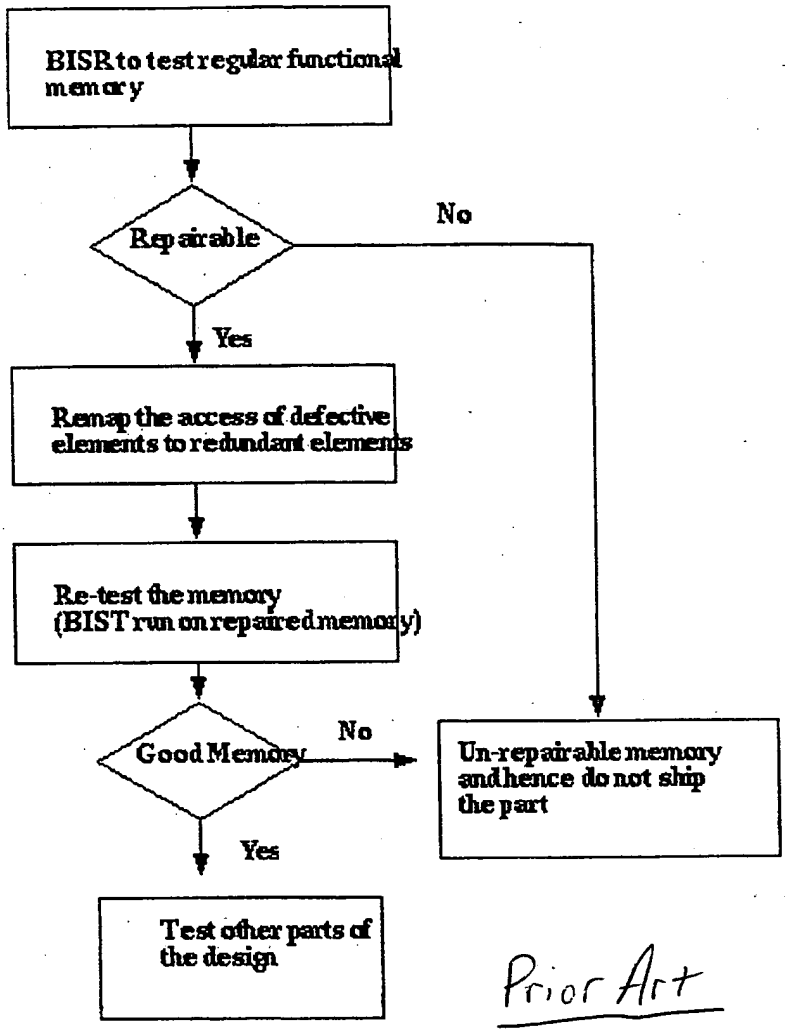
BISR to test regular functional memory
Repairable
No
Yes
Remap the access of defective elements to redundant elements
Re-test the memory (BIST run on repaired memory)
Good Memory
No
Un-repairable memory and hence do not ship the part
Yes
Test other parts of the design
Prior Art

FIG. 1

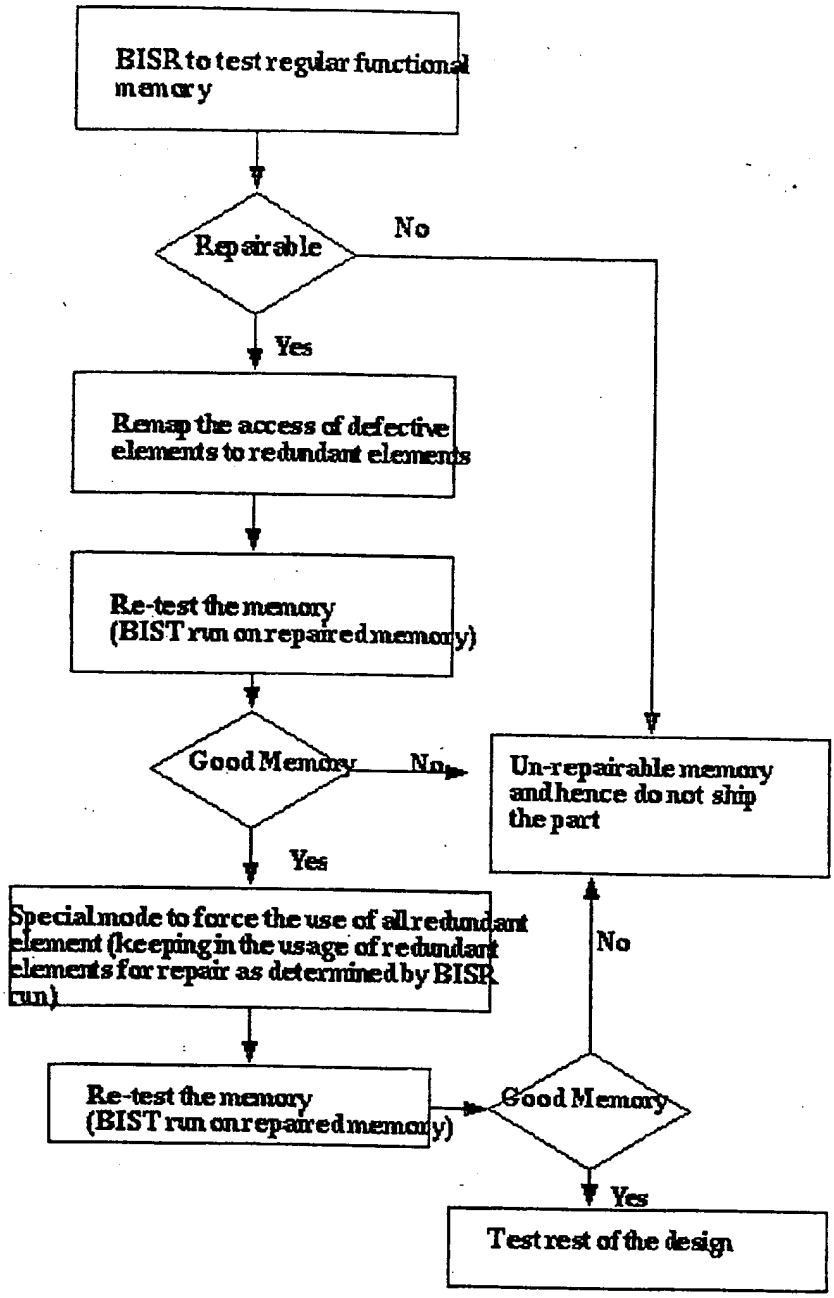
BISR to test regular functional memory
Repairable
No
Yes
Remap the access of defective elements to redundant elements
Re-test the memory (BIST run on repaired memory)
Good Memory
No
Un-repairable memory and hence do not ship the part
Yes
Special mode to force the use of all redundant element (keeping in the usage of redundant elements for repair as determined by BISR run)
No
Re-test the memory (BIST run on repaired memory)
Good Memory
Yes
Test rest of the design

FIG. 2

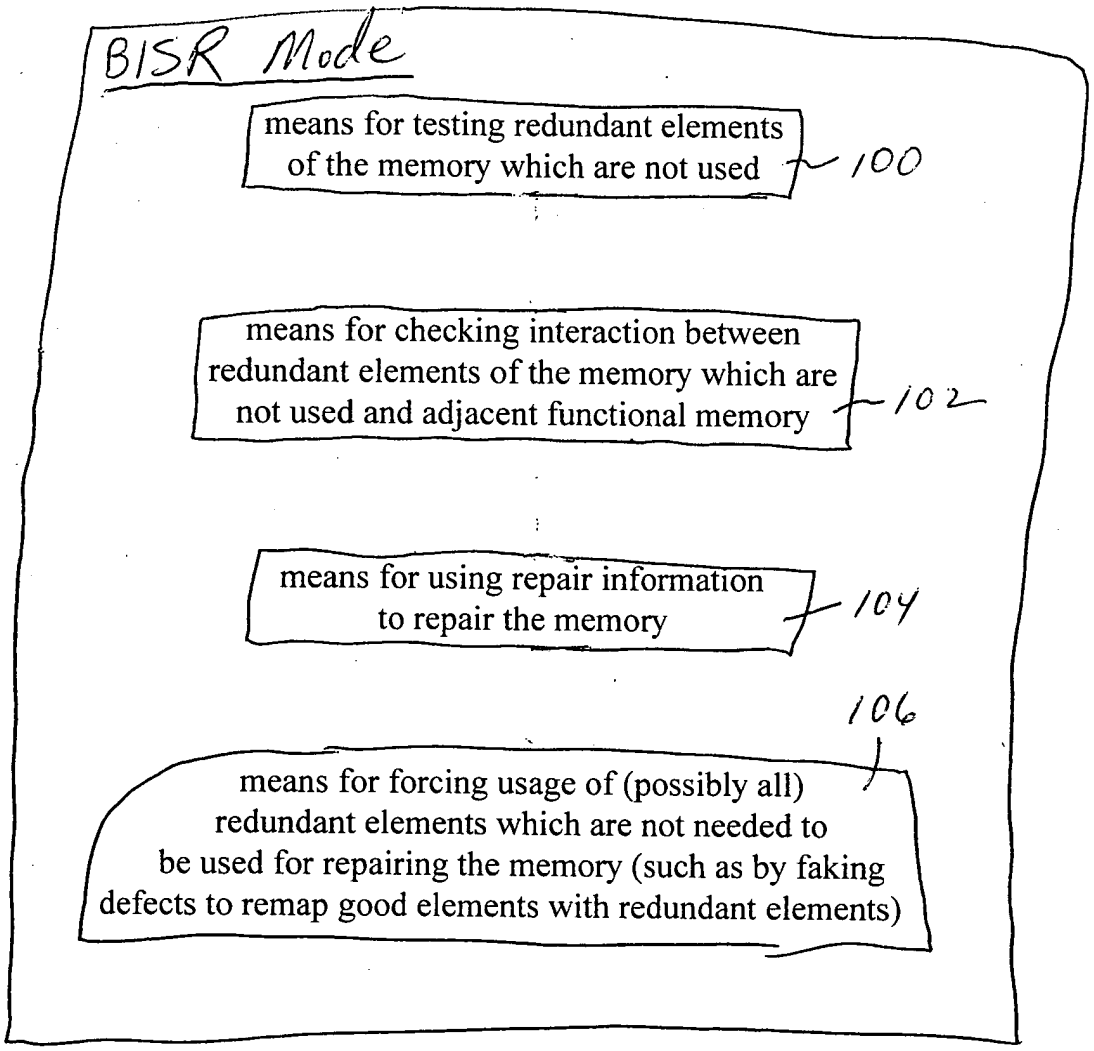
BISR Mode
means for testing redundant elements of the memory which are not used
100
means for checking interaction between redundant elements of the memory which are not used and adjacent functional memory
102
means for using repair information to repair the memory
104
106
means for forcing usage of (possibly all) redundant elements which are not needed to be used for repairing the memory (such as by faking defects to remap good elements with redundant elements)

FIG. 3